UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,412	08/03/2001	Robert W. Cantwell	131105.1006	7272

32914 7590 02/05/2007 GARDERE WYNNE SEWELL LLP INTELLECTUAL PROPERTY SECTION 3000 THANKSGIVING TOWER 1601 ELM ST DALLAS, TX 75201-4761	**EXAMINER** ROBERTS, BRIAN S

ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

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PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	09/922,412	CANTWELL, ROBERT W.
	Examiner	Art Unit
	Brian Roberts	2616

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 November 2006_.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1 and 5-22_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1 and 5-22_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed on 11/30/2006 is acknowledged.

- Claims 1 and 5-22 remain pending.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1 and 5-22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Athreya et al. (US 7088714) in view of Russell et al. (US 6496519)

-      In reference to claim 1

In Figures 2A and 2B, Athreya et al. teaches a switch (66, 64) having a plurality

of ports for receiving Ethernet framed data from a plurality of ports and switching the

data to a plurality of ports, each Ethernet frame of data including a header information,

the switch (66, 64) operable to insert without removing any existing header information

a VLAN ID (unique port identifier) into a predefined header field of the Ethernet frames

of the data from each port to identify the port from which the data is received. (column 4

lines 62 – column 5 line 21)

Athreya et al. does not teach a multiplexer coupled to the switch and operable to

multiplex the data frames from the plurality of ports into a single serial data stream, the

multiplexer being operable to multiplex the data from the plurality of ports into a single synchronous payload envelope.

In Figures 1 and 9, Russell et al. teaches a multiplexer (100; 101; 903) coupled to a switch (103; 104; 904) and operable to multiplex Ethernet data frames from a plurality of Ethernet ports into a single serial data stream, the multiplexer (100; 101; 903) being operable to multiplex the Ethernet frames from the plurality of Ethernet ports into one or more SDH or SONET payloads. (column 5 line 48 – column 6 line 64; column 9 lines 26-42)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system and method of Athreya et al. to include multiplexing a plurality of Ethernet frames from a plurality of Ethernet ports into SONET frames at a SONET multiplexer, transmitting the SONET frames over a SONET network, demultiplexing the SONET frames into plurality of Ethernet frames from a plurality of Ethernet ports at a SONET demultiplexer as taught by Russell et al. because it allows Ethernet frames to be transmitted at a high rate over a SONET backbone network.

- In reference to claim 5

The combination of Athreya et al. and Russell et al. teaches a system and method that covers substantially all limitations of the parent claims. In Figures 2A and 2B, Athreya et al. teaches a switch (66, 64) that routes the data based on the VLAN ID (unique port identifier). (column 4 lines 62 – column 5 line 21)

Athreya et al. does not explicitly teach a subscriber access multiplexer operable to receive the single serial data stream from the multiplexer, demultiplex the serial data stream into data from each port.

In Figures 1 and 9, Russell et al. teaches a subscriber access multiplexer (103; 104; 904) operable to receive the single serial data stream from the multiplexer (100; 101 ; 903), demultiplex the serial data stream into data from each port. (column 5 line 48 – column 6 line 64; column 9 lines 26-42)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system and method of Athreya et al. to include multiplexing a plurality of Ethernet frames from a plurality of Ethernet ports into SONET frames at a SONET multiplexer, transmitting the SONET frames over a SONET network, demultiplexing the SONET frames into plurality of Ethernet frames from a plurality of Ethernet ports at a SONET demultiplexer as taught by Russell et al. because it allows Ethernet frames to be transmitted at a high rate over a SONET backbone network.

- In reference to claim 6

In Figure 2A and 2B, Athreya et al. teaches a switch (66, 64) having a plurality of ports for receiving Ethernet framed data from a plurality of ports and switching the data to a plurality of ports, each Ethernet frame of data including a header information, the switch (66, 64) operable to insert without removing any existing header information a VLAN ID (unique port identifier) into a predefined header field of Ethernet frames of the data from each port to identify the port from which the data is received; wherein the data

includes data in Ethernet data frames and the predefined header field includes a virtual LAN field. (column 4 lines 62 – column 5 line 21)

Athreya et al. does not explicitly teach a multiplexer coupled to the switch and operable to multiplex the Ethernet data frames from the plurality of ports into a single serial data stream, the multiplexer being operable to multiplex the Ethernet data from the plurality of ports into a single synchronous payload envelope

In Figures 1 and 9, Russell et al. teaches a multiplexer (100; 101; 903) coupled to a switch (103; 104; 904) and operable to multiplex Ethernet data frames from a plurality of Ethernet ports into a single serial data stream, the multiplexer (100; 101; 903) being operable to multiplex the Ethernet frames from the plurality of Ethernet ports into one or more SDH or SONET payloads. (column 5 line 48 – column 6 line 64; column 9 lines 26-42)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system and method of Athreya et al. to include multiplexing a plurality of Ethernet frames from a plurality of Ethernet ports into SONET frames at a SONET multiplexer, transmitting the SONET frames over a SONET network, demultiplexing the SONET frames into plurality of Ethernet frames from a plurality of Ethernet ports at a SONET demultiplexer as taught by Russell et al. because it allows Ethernet frames to be transmitted at a high rate over a SONET backbone network.

-   In reference to claim 7

The combination of Athreya et al. and Russell et al. teaches a system and method that covers substantially all limitations of the parent claims. In Figure 2A and 2B, Athreya et al. further teaches a subscriber access multiplexer (66, 64) operable to receive data from a plurality of sender nodes (52, 54, 56) in a network and operable to insert the VLAN ID (unique port identifier) based on an IP address of the sender node of the data, and multiplex the data into a single serial data stream; and the switch (66, 64) being operable to switch the demultiplexed data based on the VLAN ID (unique port identifier) to the plurality of ports. (column 4 lines 62 – column 5 line 21)

Athreya et al. does not explicitly teach a multiplexer being operable to receive the single serial data stream from the subscriber access multiplexer and demultiplex the data.

In Figures 1 and 9, Russell et al. teaches a multiplexer (100; 101; 903) operable to receive the single serial data stream from a subscriber access multiplexer (103; 104; 904) demultiplex the serial data stream into data from each port. (column 5 line 48 – column 6 line 64; column 9 lines 26-42)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system and method of Athreya et al. to include multiplexing a plurality of Ethernet frames from a plurality of Ethernet ports into SONET frames at a SONET multiplexer, transmitting the SONET frames over a SONET network, demultiplexing the SONET frames into plurality of Ethernet frames from a plurality of Ethernet ports at a SONET demultiplexer as taught by Russell et al. because it allows Ethernet frames to be transmitted at a high rate over a SONET backbone network.

- In reference to claim 8

The combination of Athreya et al. and Russell et al. teaches a system and method that covers substantially all limitations of the parent claims. In Figure 2A and 2B, Athreya et al. teaches a subscriber access multiplexer (66, 64) operable to receive the single serial data stream from the multiplexer and route the Ethernet data to a destination network node based on the VLAN ID (unique port identifier), a MAC address and IP address in the data. (column 4 lines 62 – column 5 line 21)

- In reference to claim 9, 11

In Figure 2A and 2B, Athreya et al. teaches receiving Ethernet framed data from a plurality of ports, each Ethernet frame of data include header information; adding a VLAN ID (unique port identifier) to the header information in the Ethernet frames of data from each port, without removing header information, in order to identify the port from which the data came. (column 4 lines 62 – column 5 line 21)

Athreya et al. does not explicitly teach multiplexing the data from the plurality of ports into a single synchronous payload envelope for transmission by synchronous transmission medium.

In Figures 1 and 9, Russell et al. teaches a multiplexer (100; 101; 903) coupled to a switch (103; 104; 904) and operable to multiplex Ethernet data frames from a plurality of Ethernet ports into a single serial data stream, the multiplexer (100; 101; 903) being operable to multiplex the Ethernet frames from the plurality of Ethernet ports

into one or more SDH or SONET payloads. (column 5 line 48 – column 6 line 64;

column 9 lines 26-42)

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the system and method of Athreya et al. to include multiplexing a

plurality of Ethernet frames from a plurality of Ethernet ports into SONET frames at a

SONET multiplexer, transmitting the SONET frames over a SONET network,

demultiplexing the SONET frames into plurality of Ethernet frames from a plurality of

Ethernet ports at a SONET demultiplexer as taught by Russell et al. because it allows

Ethernet frames to be transmitted at a high rate over a SONET backbone network.

-   In reference to claim 10

The combination of Athreya et al. and Russell et al. teaches a system and

method that covers substantially all limitations of the parent claims. In Figure 2A and

2B, Athreya et al. teaches receiving data comprises receiving data from a plurality of

Ethernet ports. (column 4 lines 62 – column 5 line 21)

-   In reference to claim 12-16, and 17-22

In Figure 2A and 2B, Athreya et al. teaches receiving flamed data from a plurality

of ports, each Ethernet frame of data including header information; adding a VLAN ID

(unique port identifier) based on an IP address of the sender node of the data to the

header information in the frames of data from each port to identify the port from which

the data came; wherein adding the unique port identifier comprises inserting the unique

port identifier into a VID field of a tagged MAC frame of the data; and switching

demultiplexed Ethernet data from each port based on the unique port identifier, a MAC

address and IP address in the Ethernet data. (column 4 lines 62 – column 5 line 21)

Athreya et al. does not explicitly teach multiplexing the data from the plurality of

ports into a single synchronous payload envelope for transmission by synchronous

transmission medium; converting the single serial data stream into SONET optical

signals for transmission; and receiving the single serial data stream; demultiplexing the

single serial data stream into data from each port

In Figures 1 and 9, Russell et al. teaches a multiplexer (100; 101; 903) coupled

to a switch (103; 104; 904) and operable to multiplex Ethernet data frames from a

plurality of Ethernet ports into a single serial data stream, the multiplexer (100; 101;

903) being operable to multiplex the Ethernet frames from the plurality of Ethernet ports

into one or more SDH or SONET payloads. In Figures 1 and 9, Russell et al. further

teaches receiving the SONET payloads; demultiplexing the SONET payloads into data

from each port. (column 5 line 48 – column 6 line 64; column 9 lines 26-42)

It would have been obvious to one of ordinary skill in the art at the time of the

invention to modify the system and method of Athreya et al. to include multiplexing a

plurality of Ethernet frames from a plurality of Ethernet ports into SONET frames at a

SONET multiplexer, transmitting the SONET frames over a SONET network,

demultiplexing the SONET frames into plurality of Ethernet frames from a plurality of

Ethernet ports at a SONET demultiplexer as taught by Russell et al. because it allows

Ethernet frames to be transmitted at a high rate over a SONET backbone network.

Response to Arguments

3.   Applicant's arguments with respect to the independent claims have been

considered but are moot in view of the new ground(s) of rejection.

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure are:

- Yu (US 2001/0043603) teaches an interfacing apparatus and method for

    adapting Ethernet directly to physical channel.

- Kong et al. (US 2002/0176450) teaches a system and method for selectively

    transmitting Ethernet traffic over SONET/SDH optical network.

5.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

6.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Brian Roberts whose telephone number is (571) 272-

3095. The examiner can normally be reached on M-F 10:00-7:30.

     If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

     Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BSR
01/27/2007

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